

REMARKS

This Amendment and Response and the following remarks are intended to fully respond to the non-final Office Action mailed January 24, 2008. In that Office Action, claims 1-4, 6-9, 11-16 and 18-22 were examined, and all claims were rejected. More specifically, claims 6-9, 11-16, and 18-22 were rejected under 35 U.S.C. § 101 because, according to the Examiner, “the claimed invention is directed to non-statutory subject matter.” *Office Action, 01/24/2008 (at p. 2)*. Further, claims 8-9 and 19-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,510,478 to Jeffords et al. (hereinafter, “Jeffords”) in view of U.S. Patent No. 6,704,767 to Simmons et al. (hereinafter, “Simmons”). Claims 1-7, 11-16, 18, and 21-22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Jeffords in view of Simmons, in further view of Applicant’s admitted prior art (hereinafter, “AAPA”). Reconsideration of these rejections, as they might apply to the original and amended claims in view of these remarks, is respectfully requested.

In this Amendment and Response, claims 1-2, 4, 6, 8-9, 11-16, and 18-22 have been amended. Claims 3 and 7 have been cancelled, and claims 5, 10, and 17 remain cancelled. Claim 23 has been added. Claims 1-2, 4, 6, 8-9, 11-16, and 18-23 therefore remain present for examination. Claims 1-2, 4, 6, 8-9, 11-16, and 18-23 are in condition for allowance, and such action is respectfully requested.

Claim Rejections – 35 U.S.C. § 101

Claims 6-9, 11-16 and 18-22 were rejected under 35 U.S.C. § 101 as being unpatentable because, according to the Examiner, the claimed invention is directed to non-statutory subject matter. *Office Action, 01/24/2008, at 2-4*. The Applicants do not agree with the rejections under 35 U.S.C. § 101. However, in the interest of furthering this application to allowance, the Applicants have amended claims 6, 8-9, and 19-20 to provide for “storage medium.” *See* claims 6, 8-9, and 19-20; claim 7 has been cancelled. Similarly, claims 11-16 and 21-22 have been amended to provide for a system “comprising computer storage media” *See* claims 11-16 and 21-22. In light of these amendments, the Applicants respectfully request reconsideration of the § 101 rejections of these claims.

The Applicants note that the Examiner rejected claim 18 under 35 U.S.C. § 101. The Applicants do not understand the basis for this rejection and note that the Examiner did not

provide any support for the rejection of claim 18 under 35 U.S.C. § 101. Accordingly, the Applicants respectfully request clarification of the Examiner's rejection of claim 18.

Claim Rejections – 35 U.S.C. § 103(a): Claims 8-9 and 19-20

Claims 8-9 and 19-20 were rejected under 35 U.S.C. 103(a) as being unpatentable over Jeffords in view of Simmons. The Applicants respectfully traverse the § 103(a) rejections because the Examiner has failed to state a prima facie case of obviousness. Further, the Applicants respectfully traverse the § 103(a) rejections in light of the claim amendments presented herein. The Examiner has failed to establish that the differences between the subject matter of the embodiments and the cited references are such that the subject matter would have been obvious to a person of ordinary skill in the art. To the contrary, the cited references teach away from the claim elements. The Applicants point out that the claim amendments herein are made solely in the interest of forwarding this application to allowance and are not necessarily made to address the Office Action's rejections based on the cited references. The Applicants' amendments should in no way be construed as an agreement that the references cited teach the claim elements.

As amended, claim 8 recites:

A storage medium of a computer having stored thereon a locked resource, wherein the locked resource comprises:
a resource object data section for storing actual object data;
a lock object, wherein the lock object comprises a plurality of properties, wherein a first property identifies a lock owner, wherein the lock owner owns a lock token associated with the lock object; and
wherein the first property may be modified to change the lock owner without unlocking the locked resource, and wherein modifying the lock owner without unlocking the locked resource comprises creating a copy of the lock token and modifying the first property of the lock token.

See claim 8, supra (as amended).

As claim 8 recites, among other elements, “the first property may be modified to change the lock owner without unlocking the locked resource, and wherein modifying the lock owner without unlocking the locked resource comprises creating a copy of the lock token and modifying the first property of the lock token.” In an embodiment, for example, “The transfer of

lock ownership . . . does not remove a lock from an existing object such that any other processes or application programs desiring access to the object find that the object is unlocked even during such transfer period. Thus, no intervening or intermediate users or client avocation programs can access the data objects during a transfer of control . . .” *Specification (at [0066])*. At a minimum, the element in claim 8 of “the first property may be modified to change the lock owner without unlocking the locked resource, and wherein modifying the lock owner without unlocking the locked resource comprises creating a copy of the lock token and modifying the first property of the lock token,” is not disclosed in the cited references and is not obvious.

Jeffords provides for the coordination of shared objects in a distributed system through the use of locks; however, Jeffords does not provide, among other elements, for “the first property may be modified to change the lock owner without unlocking the locked resource, and wherein modifying the lock owner without unlocking the locked resource comprises creating a copy of the lock token and modifying the first property of the lock token.” To the contrary, Jeffords provides for all requests for a shared object to be processed through the lock owner, and the lock owner allows for ownership of the shared object to be transferred only by first releasing the object and then granting a new lock on the requested object: “When another process controls the lock, the lock owner process places the requesting process in a queue and waits for the lock to become available.” *Jeffords, Abstract* (emphasis added). Indeed, the Examiner stated: “Jeffords does not explicitly teach modifying at least one property associated with the lock object without unlocking the resource.” *Office Action, 01/24/2008, at 5 (emphasis added)*.

While the Examiner states that Jeffords does not teach “modifying at least one property associated with the lock object without unlocking the resource,” *Office Action, 01/24/2008, at 5*, the Examiner states that “Simmons teaches modifying a lock property associated with [the] lock object without unlocking the resource (figure 5; col. 3, line 57 to col. 4, line 4).” *Id.* Simmons, however, does not disclose, among other elements, “the first property may be modified to change the lock owner without unlocking the locked resource, and wherein modifying the lock owner without unlocking the locked resource comprises creating a copy of the lock token and modifying the first property of the lock token.” *See claim 8, supra (as amended)*. Simmons provides for a lock management system in which a master resource object on a master node grants locks to shadow resource objects. The shadow resource objects maintain a “convert

queue” that is used to maintain a list of convert requests by processes desiring access to locked resources. *See Simmons, (at Abstract)*. Simmons does not provide for, among other elements of claim 8, “the first property may be modified to change the lock owner without unlocking the locked resource, and wherein modifying the lock owner without unlocking the locked resource comprises creating a copy of the lock token and modifying the first property of the lock token.” To the contrary, Simmons teaches away from “modifying the lock owner without unlocking the locked resource . . . creating a copy of the lock token and modifying the first property of the lock token.” Simmons maintains a “convert queue,” as opposed to creating a copy of the lock token and modifying the first property of the lock token.

Furthermore, the citations provided by the Examiner do not teach claim 8. Instead, the sections cited disclose that changes are made to a lock object by first requiring release of the locked resource. Simmons discloses a “convert queue” which maintains a list of the lock requests: “The convert queue of a resource object is a partially ordered list that holds all outstanding (ungranted) lock requests.” Simmons, col. 4, ll. 4-7. Through the use of the convert queue, the lock manager allows modifications only by first releasing the locked resource and then granting a new lock:

If an exclusive mode lock has already been granted for the table, then a shared mode lock cannot be granted. Under these circumstances, the lock convert request is placed on the convert queue of the resource object. **When the blocking process is ready to release its exclusive lock**, the blocking process may send a lock downgrade request to the lock manager. The lock manager responds by converting the exclusive mode lock to a lesser lock that allows the grant of the shared mode lock. **The shared mode lock is then granted** by moving the shared mode lock request from the requested queue to the granted queue and transmitting a message to the requesting process to inform the requesting process that the shared mode lock has been granted.

Simmons, col. 3, ll. 58 - col. 4, ll. 3 (emphasis added).

Simmons thus expressly teaches away from “the first property may be modified to change the lock owner without unlocking the locked resource” As noted, Simmons also fails to teach, among other elements: “wherein modifying the lock owner without unlocking the locked resource comprises creating a copy of the lock token and modifying the first property of the lock token.” *See claim 8, supra (as amended)*. While the Examiner cites to Figure 5, this Figure does not disclose, at a minimum, the claimed “the first property may be modified to

change the lock owner without unlocking the locked resource, and wherein modifying the lock owner without unlocking the locked resource comprises creating a copy of the lock token and modifying the first property of the lock token.” Instead, Figure 5 expressly shows the determination of whether the “request at the head of the convert queue [can] be granted?” If not, the process shows “send[ing] messages to shadow resource objects blocking the new head request.” See Simmons, Figure 5. There is thus no disclosure in Simmons, at a minimum, of “wherein modifying the lock owner without unlocking the locked resource comprises creating a copy of the lock token and modifying the first property of the lock token.”

Because Simmons also teaches away from, at a minimum, “the first property may be modified to change the lock owner without unlocking the locked resource, and wherein modifying the lock owner without unlocking the locked resource comprises creating a copy of the lock token and modifying the first property of the lock token,” it would not have been obvious to a person of ordinary skill in the art to provide for “the first property may be modified to change the lock owner without unlocking the locked resource, and wherein modifying the lock owner without unlocking the locked resource comprises creating a copy of the lock token and modifying the first property of the lock token.” Accordingly, claim 8 is patentable, and the Applicants respectfully request allowance of this claim. Because claims 9 and 19-20 depend on allowable base claim 8, these claims are also patentable. The Applicants therefore respectfully request allowance of claims 8-9 and 19-20. The Applicants reiterate that the amendments to claim 8 are made solely in the interest of forwarding this application to allowance and are not necessarily made to address the Office Action’s rejections based on the cited references. The Applicants’ amendments should in no way be construed as an agreement that the references cited teach the claim elements.

Claim Rejections - 35 U.S.C. § 103(a): Claims 1-7, 11-16, 18, and 21-22

Claims 1-7, 11-16, 18, and 21-22 were rejected under 35 U.S.C. 103(a) as being unpatentable over Jeffords in view of Simmons, in further view of AAPA. As noted, claim 7 has been cancelled. Claim 23, which depends on claim 1, has been added. The Applicants respectfully traverse the § 103(a) rejections because the Examiner has failed to state a prima

facie case of obviousness. Further, the Applicants respectfully traverse the § 103(a) rejections in light of the claim amendments presented herein.

Independent claim 1 recites, among other elements, the limitation:

if no conflict exists, modifying at least the ownership property associated with the lock object without unlocking the resource associated with the lock object, wherein modifying at least the ownership property comprises:
creating a copy of the lock token; and
modifying at least the ownership property of the lock token.

Claim 1, supra (as amended).

For at least the reasons stated above with respect to the discussion of claim 8, neither Jeffords nor Simmons discloses the element, among others, of claim 1 of: “modifying at least the ownership property associated with the lock object without unlocking the resource associated with the lock object, wherein modifying at least the ownership property comprises: creating a copy of the lock token; and modifying at least the ownership property of the lock token.” As discussed above, the Examiner admitted that “Jeffords does not explicitly teach modifying at least an ownership property associated with the lock object without unlocking the resource associated with the lock object.” *Office Action, 01/24/2008 (at p. 7) (emphasis added)*. Further, Simmons does not provide for, at a minimum, “wherein modifying at least the ownership property comprises: creating a copy of the lock token; and modifying at least the ownership property of the lock token.” The citations to Simmons by the Examiner do not disclose such claim elements. *See, e.g., Office Action, 01/24/2008 (at p. 7) (citing Simmons figure 5; col. 3, line 57 to col. 4, line 4)*. Claim 1 is therefore patentable over Jeffords in view of Simmons. Further, claim 1 is patentable over Jeffords in view of Simmons, in further view of AAPA. At a minimum, AAPA does not disclose the element of claim 1 of: “modifying at least the ownership property associated with the lock object without unlocking the resource associated with the lock object, wherein modifying at least the ownership property comprises: creating a copy of the lock token; and modifying at least the ownership property of the lock token.” *Compare claim 1, supra (as amended) with Specification (at page 2)*. Claim 1 is therefore patentable. Because claims 2, 4, 6, 18, and 23 depend on the allowable base claim 1, these claims are also patentable and reconsideration of the Examiner’s rejections of these claims is respectfully requested. The Applicants reiterate that the amendments to claim 1 are made solely in the interest of forwarding this application to allowance and are not necessarily made to address the Office Action’s

rejections based on the cited references. The Applicants' amendments should in no way be construed as an agreement that the references cited teach the claim elements.

Further, claim 11 recites, among other elements:

a determination module operable to determine whether the requesting process owns the lock object; and
an update module operable to modify the at least one property of the lock object as set forth in the modification information upon a determination that the requesting process owns the lock object, wherein modifying the at least one property occurs without unlocking the resource associated with the lock object.

Claim 11, supra.

Neither Jeffords, nor Simmons, nor AAPA discloses or teaches the elements of claim 11 of, at a minimum: "an update module operable to modify the at least one property of the lock object as set forth in the modification information upon a determination that the requesting process owns the lock object, wherein modifying the at least one property occurs without unlocking the resource associated with the lock object." For example, the Examiner cites to Jeffords' "abstract, figure 5; col. 2, lines 41-42; col. 3, line 65 to col. 4, line 18" as satisfying the element of "an update module for modifying the lock object upon a determination that the requesting process owns the lock object." *See Office Action, 01/24/2008 (at p. 10)*. First, the Applicants respectfully disagree with this argument by the Examiner because the Examiner has not recited the claim language accurately. The Applicants respectfully request clarification based on the correct claim language. Second, these citations do not disclose or teach, at a minimum, the claimed "modify the at least one property of the lock object as set forth in the modification information upon a determination that the requesting process owns the lock object" For example, the Examiner's citation to "col. 3, line 65 to col. 4, line 18" deals with granting a lock and releasing the lock, but it fails to disclose "modify the at least one property of the lock object as set forth in the modification information upon a determination that the requesting process owns the lock object" *Claim 11, supra*. Claim 11 is therefore patentable. Because claims 12-16 and 21-22 depend on the allowable base claim 11, these claims are also patentable, and reconsideration of the Examiner's rejections of these claims is respectfully requested.

CONCLUSION

This Amendment and Response fully responds to the Office Action mailed on January 24, 2008. Still, that Office Action may contain arguments and rejections that are not directly addressed by this Amendment and Response due to the fact that they were rendered moot in light of the preceding arguments in favor of patentability. Hence, the failure, if any, of this Amendment and Response to directly address an argument raised in the Office Action should not be taken as an indication that the Applicants believe the argument has merit. Furthermore, the claims of the present application may contain other elements, not discussed in this Amendment and Response, which are not shown, taught, or otherwise suggested by the art of record. Accordingly, the preceding arguments in favor of patentability are advanced without prejudice to other bases of patentability.

It is believed that no further fees are due with this Amendment and Response. However, the Commissioner is hereby authorized to charge any deficiencies or credit any overpayment with respect to this patent application to deposit account number 13-2725.

In light of the above remarks and amendments, it is believed that the application is in condition for allowance, and such action is respectfully requested. Should any additional issues need to be resolved, the Examiner is requested to telephone the undersigned to attempt to resolve those issues.

Respectfully submitted,

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Elizabeth J. Reagan, Reg. No. 67,528
MERCHANT & GOULD P.C.
P. O. Box 2903
Minneapolis, MN 55402-0903
(303) 357-1644